

STATUS OF THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method for producing an *in vitro* peptide expression library comprising a plurality of peptides, wherein each peptide is non-covalently bound to the DNA construct encoding the peptide, comprising:

- (a) providing a DNA construct comprising:
 - (i) a DNA target sequence;
 - (ii) DNA encoding a library member peptide; and
 - (iii) DNA encoding a peptide capable of non-covalently binding to said DNA target sequence of (a)(i);

wherein said DNA construct and said peptide encoded by the DNA of (a)(iii) are selected to have cis-activity; and

- (b) expressing in an acellular environment a plurality of DNA constructs according to (a), wherein said DNA constructs encode a plurality of library member peptides such that each expressed peptide is non-covalently bound to the DNA from which it was produced.

2. (Previously Presented) The method according to claim 1 wherein said DNA construct further comprises:

- (iv) a DNA element that directs cis-activity.

3. (Previously Presented) The method according to claim 2 wherein said DNA construct of (a) further comprises (v) DNA encoding a fragment comprising at least the C-terminal 20

amino acids of a repA protein; wherein said DNA element of (iv) is located 3' to said DNA of (ii), (iii) and (v).

4. (Previously Presented) The method according to claim 1 wherein the peptide encoded by said DNA of (iii) non-covalently binds directly to said DNA target sequence of (i).

5. (Previously Presented) The method according to claim 4 wherein the peptide encoded by said DNA of (iii) is a repA protein and wherein said DNA target sequence of (i) is an origin of replication that is recognized by a repA protein (ori).

6. (Previously Presented) The method according to claim 4 wherein said DNA of (ii) is bound to said DNA of (i) and (iii) by restriction enzyme digestion and ligation.

7. (Previously Presented) The method according to claim 3 wherein said repA is selected from the group consisting of repA of the IncI complex plasmids and repA of the IncF, IncB, IncK, IncZ and IncL/M plasmids.

8. (Previously Presented) The method according to claim 5 wherein said DNA construct comprises the sequence encoding repA, the cis DNA element and the ori DNA of the IncFII plasmid R1.

9. (Previously Presented) The method according to claim 3 wherein said repA protein comprises SEQ ID NO: 16 and wherein said cis DNA element comprises SEQ ID NO: 17.

10. (Previously Presented) The method according to claim 1 wherein DNA not bound by the peptide encoded by said DNA of (iii) is bound by a non-specific DNA binding protein.

Withdrawn Claims 11 through 19 (CANCELED)

20. (Previously Presented) The method according to claim 1 wherein said DNA is under the control of suitable promoter and translation sequences to allow for *in vitro* transcription and translation.

21. (Previously Presented) The method according to claim 1 wherein said library member peptide is an antibody or fragment thereof.

22. (Previously Presented) The method according to claim 1 wherein said library comprises at least 10^4 molecules.

23. (Previously Presented) The method according to claim 1 wherein said expression is carried out in the presence of a compound that prevents nuclease activity, or reduces non-specific DNA-protein or protein-protein interactions.

24. (Previously Presented) The method according to claim 1, wherein said expression is carried out in acoupled bacterial transcription/translation extract system.

25. (Previously Presented) The method according to claim 24 wherein said coupled bacterial transcription/translation extract system is the S30 extract system.

Withdrawn Claim 26 (CANCELED)

27. (Previously Presented) A method of identifying and/or purifying a peptide exhibiting desired properties from an *in vitro* peptide expression library produced according to the method of claim 1, comprising at least the steps of (a) screening said library and (b) selecting and isolating the relevant library member.

28. (Previously Presented) A method of identifying a specific ligand binding peptide, said method comprising at least the steps of (a) screening an *in vitro* peptide expression library produced according to the method of claim 1 with ligand molecules which are optionally bound to a solid support; (b) selecting and isolating a library member binding to said ligand molecule; and (c) isolating the peptide which binds specifically to said ligand molecule.

29. (Previously Presented) The method according to claim 27 wherein said library member peptides are antibodies or fragments thereof.

30. (Previously Presented) The method of identifying and/or purifying a peptide having the ability to bind a specific DNA target sequence comprising at least the steps of

- (a) providing an *in vitro* expression library according to claim 1 wherein the peptide encoded by the DNA of (iii) is a library member peptide having DNA binding activity and wherein said DNA target sequence of (i) is the target sequence of interest;
- (b) selecting and isolating a library member in which the encoded peptide binds to said target sequence; and
- (c) isolating the peptide which binds to said target sequence.

31. (Previously Presented) The method according to claim 30 wherein said library member peptides are zinc finger proteins, helix-loop-helix proteins or helix-turn-helix proteins.

32. (Previously Presented) The method according to claim 27 wherein said screening and/or selecting step is carried out in the presence of a compound that prevents nuclease activity or reduces non-specific DNA-protein or protein-protein interactions.

33. (Previously Presented) The method according to claim 32 wherein said compound is heparin.

34. (Previously Presented) The method according to claim 27 wherein additionally the DNA expressing said isolated peptide is isolated.

35. (Previously Presented) The method according to claim 34 further comprising cloning said DNA into an expression vector.

36. (Previously Presented) The method according to claim 35 further comprising introducing said expression vector into a cell *in vitro*.

37. (Previously Presented) The method according to claim 35 further comprising expressing the peptide encoded by said DNA.

38. (Previously Presented) An *in vitro* peptide expression library produced according to the method of claim 1.

39. (Previously Presented) A DNA construct as described in claim 1.

40. (Previously Presented) The method according to claim 28 wherein said library member peptides are antibodies or fragments thereof.

41. (Previously Presented) The method according to claim 28 wherein said screening and/or selecting step is carried out in the presence of a compound that prevents nuclease activity or reduces non-specific DNA-protein or protein-protein interactions.

42. (Previously Presented) The method according to claim 30 wherein said screening and/or selecting step is carried out in the presence of a compound that prevents nuclease activity or reduces non-specific DNA-protein or protein-protein interactions.

43. (Previously Presented) The method according to claim 28 wherein additionally the DNA expressing said isolated peptide is isolated.

44. (Previously Presented) The method according to claim 30 wherein additionally the DNA expressing said isolated peptide is isolated.